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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,746	09/10/2003	Oliver Horn	008388-7	3402
25570	7590	01/25/2006	EXAMINER	
ROBERTS, MLOTKOWSKI & HOBBS			FORD, JOHN K	
P. O. BOX 10064			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	

3753

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/658,746

Applicant(s)

HORN ET AL.

Examiner

John K. Ford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/29/05 + RCE 12/27/05
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 4-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Applicant's response of November 29, 2005 has been carefully considered pursuant to the filing of an RCE. Applicant's previous election of the species of Figure 1, without traverse, is acknowledged.

Applicant has identified claims 1-3 and 10-12 as readable on Figure 1 and affirms that in the remarks section of his July 29, 2005 response. It is noted however that claims 4 and 5 should have been designated as withdrawn (consistent with applicant's original election and affirmation) are typographically improperly designated (in both the July 25, 2005 and the November 29, 2005 responses) and remain withdrawn here. This is the second time the Examiner has pointed out this error. Please correctly designate them in the future.

In an attempt to distinguish amended claim 1 from the prior art relied upon by the Examiner, applicant stresses the operating modes that his device is capable of (see last paragraph of claim 1). This is generally not availing in distinguishing an apparatus claim from prior art that teaches the claimed apparatus, but not necessarily the method of operation of that apparatus. See MPEP 2114, incorporated here by reference. There is no "means plus function" recitation in claim 1, but rather the last two paragraphs of claim 1 amount to a vague recitation involving an in-determinant number of "flow controllers" (apparently one or more of valves 28, 44, 54, 72 and 90) and functional recitations of intended manners of operation.

In the previous office action the Examiner set forth the following warning: "In presenting this rejection the Examiner explicitly incorporated by reference MPEP 2114 and its determination of how functional language regarding intended manners of operation and intended functions are not given patentable weight in claims directed to apparatus." (Office

action of 4/29/05, page 2, lines 14-16). Applicant's July 29, 2005 response presented no arguments addressing the Examiner's interpretation of the claims and of what is stated in the MPEP, therefore the Examiner expected that no new arguments would be forthcoming given this chance to respond. Applicant's November 29, 2005 did include a new response in the form of MPEP 2173.05(G) and an argument that the examiner must give applicant's functional language consideration. To the extent that applicant has claimed enough structure to support the capability of performing all of the underlying function(s), the examiner is willing to extend consideration, however applicant has claimed significantly less structure (namely significantly fewer valves than all of valves 28, 44, 54, 72 and 90) than is necessary to perform all of the underlying functions. Even if applicant were claiming all of the valves necessary, if corresponding valves are found in the prior art then the capability would be met and the rejections sustained even if the references failed to explicitly teach operating the valves in the modes contemplated by applicant (consistent with MPEP 2114).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 and 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The amendments made to claim 1 are confusing and contradictory. In claim 1, line 12, "first and second heat exchangers" are claimed. In claim 1, lines 17 and 19, it is unclear which of the "first and second heat exchangers" is being referred to in the recitations " the heat exchanger".

It is also completely unclear what is meant by the recitation in claim 1, line 23 with respect to "fluid flow connections" (emphasis supplied). There is only one fluid flow connection previously recited. Where is/are the other one(s)?

Finally, it is unclear how many "flow controllers" are claimed in claim 1 as a minimum. It appears that, minimally speaking, one "flow controller" in the coolant circuit and one "flow controller" in the liquid medium heat transfer circuit is being claimed in claim 1, lines 22-24. Is that correct, or not?

In claim 1, line 25-34, recites a host of functions that require all of valves 28, 44, 54, 72 and 90 to be claimed. The examiner noted above that applicant explicitly claims only two flow controllers (i.e. only two of valves 28, 44, 54, 72 and 90). The three unclaimed valves are required to perform all of the functions specified in claim 1, lines 25-34. The functions claimed in claim 1, lines 25-34 are incommensurate in scope with the structure applicant is willing to claim to perform them. Thus, claim 1 is inherently ambiguous.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3 and 10-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The apparent recitation of, at minimum, two flow controllers, one in each of the coolant circuit and liquid heat transfer medium circuit, is claiming fewer valves in the various circuits are necessary to support all of the functional recitations in claim 1, lines 25-34. To the extent that no two valves that applicant has disclosed can, by themselves, support all of the functions recited in claim 1, lines 25-34, applicant has failed to comply with the written description requirement of 35 USC 112, first paragraph.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Herta (2002/0100290) and Saperstein (5,265,437) and optionally Brocx (5,322,217) and optionally Rafalovich et al (6,059,016).

Herta discloses all of the claimed features of claim 1, including a compressor 21, condenser 22, evaporator 30, a heat source 10, a heat exchanger 17, a heat/cold reservoir 33 and a heating/cooling surface 12, which heats a vehicle interior wall 37 by virtue of fan 13 blowing air through heating/cooling surface 12. Elements 12 and 17 are connected in parallel. Valve 20 controls flow of engine heat transfer medium through element 12. A circulation pump 18 is shown. A second evaporator 25 is shown.

No driver's bed heating/cooling surface is disclosed in Herta. Herta does disclose a compartment heater 12, however.

Saperstein teaches a sleeping heat exchanger 69 connected in parallel with the compartment heater 68 to permit the sleeper area to be conditioned by the circulating medium. The flow of circulating medium is controlled by a plurality of valves 70 that permit the medium to flow selectively through either heat exchanger 68, heat exchanger 69 or both heat exchangers 68 and 69 at the same time as disclosed in col. 7, lines 9-28, incorporated here by reference.

To have connected a driver's heat exchanger in parallel, fluidically, with respect to heater 12 of Herta using selective valving as described in Saperstein in col. 7, lines 9-28, incorporated here by reference, to permit Herta's system to comfortably condition an over-the-road truck with a sleeper compartment, by allowing the selective use of one or both heat exchangers depending on which compartment or compartments were occupied, would have been obvious to one of ordinary skill in the art.

Brocx is optionally relied upon to teach the art recognized equivalence of using a main compartment heat exchanger alone (Figure 9) and a main heat exchanger and

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sleeper unit connected in parallel (Figure 10) thereby reinforcing the teachings of the combination of Herta/Saperstein discussed above, if there is any question about connecting heaters for different compartments fluidically in parallel with respect to the engine coolant.

Rafalovich et al (6,059,016) is optionally relied upon to show the skill level in this art. As disclosed in Figure 34, a compartment heater 222, three-way valve 900 and thermostatic valves 940 and 970 are clearly shown. These valves (900, 940 and 970) selectively direct flow to a plurality of parallel-connected heat exchangers (i.e. 222, 910 and 920) from a storage heating and cooling device (similar to that disclosed by Herta). To the extent that the examiner has to respond to the (below the ordinary skill level) argument advanced at the top of page 6 of applicant's November 29, 2005 response, Rafalovich clearly discloses that one of ordinary skill in this art would have possessed a skill level sufficient to connect valved heat exchangers (such as disclosed by Saperstein) in parallel with respect to a source of heated or cooled liquid (such as the heating and cooling system of Herta) notwithstanding the fact that Saperstein only discloses a cooling system and not a combined heating/cooling system and that Brocx discloses only a heating system and not a combined heating/cooling system.

The examiner has now shown applicant that connecting valved heat exchangers in parallel with respect to a source of temperature conditioning fluid is known in cooled systems (Saperstein), heated systems (Brocx) and, now, combined heated and cooled systems (Rafalovich). It is submitted that, at the level of skill evident from the study of these references, these are very simple modifications.



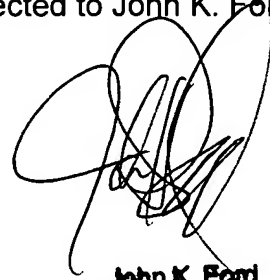
Furthermore, the valves disclosed by the prior art correspond in number and location to those set forth in claim 1 notwithstanding applicant's remarks to the contrary.

The fact that the references don't explicitly teach all of the modes contemplated by the functional recitations of claim 1 is of no moment since apparatus claims must distinguish structure from prior art structure based on what the apparatus **is** rather than what the apparatus **does**. See MPEP 2114.

Claims 1-3 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claims 1-3 and 10-12 above, and further in view of Baier.

To have made the rear heat exchanger of the prior art discussed above of a plate type heat exchanger to take up less room in the sleeper compartment and advantageously avoid the use of a separate fan would have been obvious to one of ordinary skill in the art.

Any inquiry concerning this communication should be directed to John K. Ford at telephone number 571-272-4911.

A handwritten signature in black ink, appearing to read 'John K. Ford', with a large, stylized loop at the end.

John K. Ford  
Primary Examiner